

WHAT IS CLAIMED IS:

1. An optical pick-up device comprising:

a light source provided with a holographic unit adapted  
5 to diffract a light beam;

an optical disc adapted to allow data to be written  
thereof or to be read therefrom;

a monitor photodiode served to monitor a laser power of  
the light source; and

10 a lens for light collection arranged between the light  
source and the monitor photodiode and adapted to converge a  
first-order diffracted beam outputted from the holographic unit  
and to apply the converged first-order diffracted beam to the  
monitor photodiode.

15 2. The optical pick-up device according to claim 1,  
wherein the lens for light collection comprises:

a lens face for converging the first-order diffracted  
light beam;

20 a total reflective face for totally reflecting the  
converged first-order diffracted beam; and

an exit face for transmitting the reflected first-order  
diffracted beam to the monitor photodiode.

25 3. The optical pick-up device according to claim 2,

wherein the lens face has a spherical shape convex toward the light source.

4. The optical pick-up device according to claim 2,  
5 wherein facing edges of the reflective face and the exit face are in contact with each other.

5. The optical pick-up device according to claim 2,  
wherein the lens for light collection comprises:

10 a lens face for converging the first-order diffracted light beam;

15 a first reflective face for totally reflecting the converged first-order diffracted beam passing through the lens face;

20 a second reflective face for totally reflecting again the reflected first-order diffracted beam; and

25 an exit face for transmitting the first-order diffracted beam, repeatedly reflected, to the monitor photodiode.

6. The optical pick-up device according to claim 5,  
wherein the first and second reflective faces are parallel with each other so that the first-order diffracted beam is repeatedly totally reflected.

7. The optical pick-up device according to claim 5,

wherein the lens for light collection further comprises an optical waveguide arranged between the first and second reflective faces to guide the first-order diffracted beam to the monitor photodiode.

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8. The optical pick-up device according to claim 5, wherein the exit face has an inclined shape with respect to the first-order diffracted beam traveling along the optical waveguide.

9. The optical pick-up device according to claim 5, wherein the monitor photodiode is coupled to the exit face while facing the exit face.

10. The optical pick-up device according to claim 1, wherein the lens for light collection is formed using an injection molding process.

11. In an optical pick-up device including a light source provided with a holographic unit adapted to diffract a light beam, and a monitor photodiode arranged in front of the light source and adapted to monitor a laser power of the light source, an lens for light collection comprising:

a lens face for converging a first-order diffracted light beam outputted from the holographic unit;

a total reflective face for totally reflecting the first-order diffracted beam passing through the lens face; and

an exit face for transmitting the reflected first-order diffracted beam to the monitor photodiode.

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12. The lens for light collection according to claim 11, wherein the lens face has a spherical shape convex toward the light source.

10 13. The lens for light collection according to claim 11, wherein facing edges of the reflective face and the exit face are in contact with each other.

15 14. In an optical pick-up device including a light source provided with a holographic unit adapted to diffract a light beam, and a monitor photodiode arranged in front of the light source and adapted to monitor a laser power of the light source, a lens for light collection comprising:

20 a lens face for converging a first-order diffracted light beam outputted from the holographic unit;

a first reflective face for totally reflecting the converged first-order diffracted beam passing through the lens face;

25 a second reflective face for totally reflecting again the reflected first-order diffracted beam; and

an exit face for transmitting the first-order diffracted beam, repeatedly reflected, to the monitor photodiode.

15. The lens for light collection according to claim 14,  
5 wherein the first and second reflective faces are parallel with each other so that the first-order diffracted beam is totally reflected.

16. The lens for light collection according to claim 14,  
10 wherein the lens for light collection further comprises an optical waveguide arranged between the first and second reflective faces to guide the first-order diffracted beam to the monitor photodiode.

17. The lens for light collection according to claim 14,  
15 wherein the exit face has an inclined shape with respect to the first-order diffracted beam traveling along the optical waveguide.

20 18. The lens for light collection according to claim 14, wherein the monitor photodiode is coupled to the exit face while facing the exit face.